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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/931,587
Filing Date: August 16, 2001
Appellant(s): SALATINO ET AL.

MAILED
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GROUP 2800

Paul J. Ditmyer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10-12-4 appealing from the Office action mailed 5-10-4.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claim 1-6, 11 and 13-21.

Claims 22-33 stand allowed.

Claims 7-10 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 stands withdrawn from consideration as not directed to the elected invention.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection is substantially correct. The changes are as follows: There are no grounds of rejection of claims 7-10 and 22-33.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

5,177,669	JUSKEY et al.	1-1993
5,703,398	SONO et al.	12-1997
6,143,588	GLENN	11-2000

Admitted prior art in the instant specification, at page 2, lines 17-20; page 14, lines 25-32; page 15, lines 5-10; and page 15, line 31 to page 16, line 3.

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claims 1-6, 11, 13, 15, 17 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey (5177669) in combination with Sono (5703398).

At column 1, lines 31-55, and column 2, line 34 to column 4, line 11, Juskey discloses a method for making an integrated circuit (IC) package with an exposed portion of the IC, the method comprising: providing a mold including first 46 and second 40 mold portions, the first mold portion carrying a mold protrusion 48 defining an IC-contact surface with peripheral edges; closing the first and second mold portions around the IC and injecting encapsulating material 50 into the mold to form the IC package 10 with the exposed portion 20 adjacent the mold protrusion; and releasing the IC 12 package from the mold, wherein the mold protrusion has a generally rectangular shape, controlling pressure applied by the IC-contact surface to the IC when the first and second mold portions are closed around the IC, wherein controlling pressure comprise providing the mold protrusion comprising a resilient material, mounting the IC on a substrate 32 prior to closing the first and second mold portions, wherein the encapsulating material and the IC have different coefficients of thermal

expansion (CTEs); wherein the encapsulating material is injected at an elevated temperature (above absolute zero); and further comprising relieving stress caused by the different CTES as the IC and encapsulating material cool, wherein relieving stress comprises providing a leadframe having a die pad with an opening "aperture" therein, and mounting the IC on the die pad with the opening therein prior to closing the first and second mold portions around the IC, wherein the exposed portion of the IC comprises upper surface portions with active devices formed therein, wherein the first and second mold portions each inherently comprises rigid material.

To further clarify the disclosure that the first and second mold portions inherently comprise rigid material, it is noted that it is inherent that the mold portions are sufficiently rigid to retain a space 47 for molding.

However, Juskey does not appear to explicitly disclose a bleed-through retention channel positioned inwardly from the peripheral edges that retains encapsulating material bleeding beneath the peripheral edges of the IC contact surface, wherein said bleed-through retention channel extends adjacent at least a portion of an entire extent of the peripheral edges of the contact surface, and wherein said bleed-through retention channel extends adjacent an entire extent of the peripheral edges of the contact surface.

Notwithstanding, at column 6, lines 41-43, and column 7, lines 12-20 and 46-55, Sono discloses a bleed-through retention channel 74 or 84 positioned inwardly from mold portion 70 or 81 peripheral edges that retains encapsulating material "resin" bleeding beneath the peripheral edges of the mold portion contact surface (the mold portion surface contacting the plate 28 or 29), wherein said bleed-through retention channel extends adjacent at least a portion of an entire extent of the peripheral edges of the contact surface, and wherein said bleed-through retention channel extends adjacent an entire extent of the peripheral edges of the contact surface. In addition, it would have been obvious to combine the bleed-through retention channel with the mold of Juskey because it would prevent resin from bleeding as taught as desirable by both Juskey "prevent flashing" and Sono.

Claim 14 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey and Sono as applied to claim 13.

Juskey does not appear to explicitly disclose as the invention wherein relieving stress comprises using a low stress encapsulating material.

Still, as cited, Juskey discloses conventionally relieving stress using a low stress encapsulating material made by "[reducing] the expansion coefficient [of the material] to more closely approximate that of the silicon IC." Furthermore, it would have been obvious to use

the conventional low stress encapsulating material as the encapsulating material of Juskey because it would reduce stress.

Claims 16 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey and Sono as applied to claim 15, and further in combination with appellant's admitted prior art.

Although, as cited, Juskey discloses mounting the IC on the die pad with the opening therein by adhesively securing the IC on the die pad, Juskey does not appear to explicitly disclose wherein relieving stress further comprises using a low stress, low modulus adhesive.

Notwithstanding, in the specification, at page 14, lines 25-32, appellant discloses a prior art, low stress, low modulus die attach adhesive "Ablebond 8340." In addition, it would have been obvious to use the prior art die attach adhesive as the die attach adhesive of Juskey because it would provide the die attach adhesive of Juskey, and use of a known element based on its suitability for its intended use has been held to be prima facie obvious. See MPEP 2144.07.

To further clarify the disclosure that Ablebond 8340 is prior art, the disclosure that this trademarked product was known or used by others in this country as of the filing date of the instant application is prima facie evidence that it is prior art.

Also, the combination of Juskey and Sono does not appear to explicitly disclose periodically cleaning the mold and the mold protrusion.

Nevertheless, at page 15, lines 5-10; and page 15, line 31 to page 16, line 3, appellant discloses as prior art periodically cleaning a mold. Additionally, it would have been obvious to periodically clean the mold and the mold protrusion of the applied prior art because it would facilitate encapsulating.

Claim 18 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey and Sono as applied to claim 17, and further in combination with Glenn (6143588).

Juskey does not appear to explicitly disclose wherein the active devices define a sensor.

Nonetheless, as cited, Juskey discloses that the devices define an integrated circuit, for example, an EPROM, and at column 1, lines 28-36, Glenn discloses wherein devices define integrated circuits including an EPROM or a sensor. In addition, it would have been obvious to substitute the sensor of Glenn for the EPROM of Juskey, because it would provide a low stress sensor package.

Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey, Sono and Glenn as applied to claim 18, and further in combination with appellant's admitted prior art.

Although, as cited, the combination of Juskey, Sono and Glenn discloses wherein the active devices define a fingerprint sensor, it does not appear to explicitly disclose wherein the active devices define an electric field fingerprint sensor.

Nonetheless, in the specification, at page 2, lines 17-20, appellant discloses as prior art wherein active devices define an electric field fingerprint sensor. Furthermore, it would have been obvious to use the prior art fingerprint sensor as the fingerprint sensor of the applied prior art because it would provide a fingerprint sensor, and substitution of a known element based on its suitability for its intended use has been held to be prima facie obvious. See MPEP 2144.07.

Claims 22 and 24-33 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art does not teach the claimed invention as a whole, including mounting the IC on a leadframe having resilient portions to resiliently accommodate downsetting of the IC within the mold as the IC-contact surface contacts the IC.

Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach the claimed invention as a whole, including mounting the IC on a leadframe having resilient portions to resiliently accommodate downsetting of the IC as the IC-contact surface contacts the IC.

(10) Response to Argument

Appellant asserts that, in Sono, "there is no IC-contact surface at all, much less an IC-contact surface with a bleed through retention channel." Relatedly, appellant asserts, "The Sono et al. reference is not directed to nor concerned with IC's having an opening therein."

These assertions are respectfully deemed unpersuasive because Sono is not applied to the rejection for a disclosure of an IC contact surface or because it is directed to or concerned with IC's having an opening therein.

Also, appellant appears to argue that, at column, 3, lines 35-39 and 63-67; and column 4, lines 4-8, Juskey teaches away from the claimed invention and from the combination of Juskey and Sono.

This apparent argument is respectfully deemed unpersuasive because appellant merely cites without elucidation, and the citations do not otherwise appear to support an argument that Juskey teaches away from the claimed invention and from the combination of Juskey and Sono.

Appellant further contends that, "the Juskey reference emphasizes keeping the faces of the IC free of molding material, contrary to the present invention."

It is respectfully submitted that this alleged emphasis of Juskey would not be "contrary to the present invention" because such a disclosure would not be incompatible with the instant invention. In any case, Juskey is not applied to the rejection for this disclosure. In fact, at column 3, line 57 to column 4, line 11; and FIG. 7, Juskey explicitly discloses not keeping the faces (at 16 and 22) of the IC free of molding material.

Also, appellant contends that proper motivation to combine Juskey and Sono has not been provided.

This contention is respectfully traversed because proper motivation to combine Juskey and Sono is elucidated in the rejection; specifically, "it would have been obvious to combine the bleed-through retention channel with the mold of Juskey because it would prevent resin from bleeding as taught as desirable by both Juskey 'prevent flashing' and Sono."

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

David E. Graybill

A handwritten signature in black ink, appearing to read "David E. Graybill", located below the typed name.

Conferees:


Amir Zarabian


Olik Chaudhuri